Lesson 2: SankofaPOWER – Foundations of GIS

Lab Instructions

In this lab we will download QGIS and make our first map to correspond with our interviews!

Download & Install QGIS

This is best done on a computer as the mobile and tablet apps are primarily for field data collection.

You will need about 1 Gb of available storage on your computer.

1) Visit https://qgis.org/download/

   a) Please find your operating system (OS) and **download** the Long Term Version (LTR) of QGIS.

   b) Once downloaded, **install** the program. This may take some time.

   c) If you run into issues, there is more documentation here: https://qgis.org/resources/installation-guide/.

   Your instructor will also be happy to assist!

Starting a QGIS Project

1) Organization is essential for GIS projects!

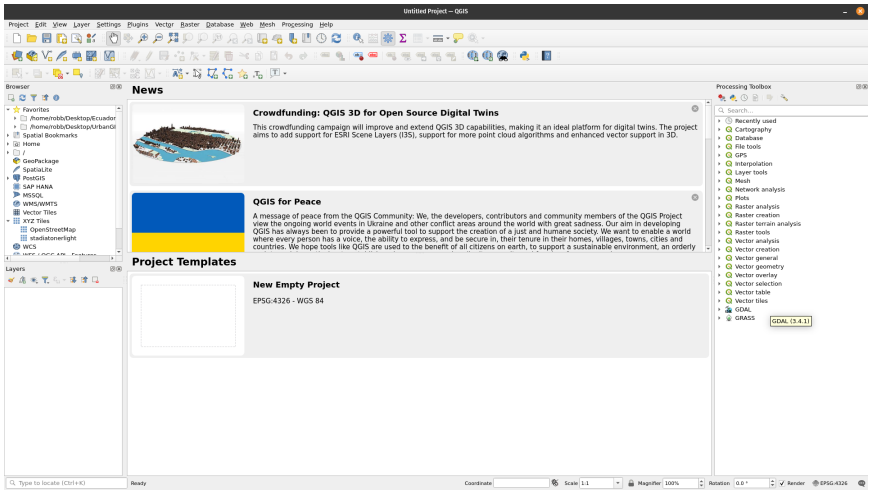
   a) Open your file manager application and navigate to **Desktop**.

   b) Create a new folder for this project called, **Sankofa Interview GIS**

   c) Within this new folder, create one more folder called, **Data**

2) Now, let's start QGIS. This can be done like any other application on your computer.

   a) Your screen should look something like this ->



3) Finally, we will begin a new project

   a) Double click on **New Empty Project** under Project Templates

   b) Click on the **Project** tab at the top left and select **Save As**

c) Save this project in the Sankofa Interview GIS folder as **Juneteenth**.qgz

d) That's it for now, we'll be back once we have some data!

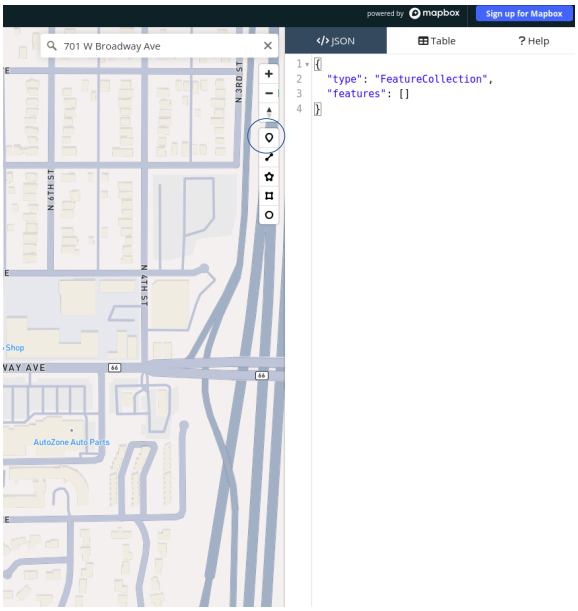
Creating a Point

In this section we will learn one way to create a GeoJSON.

1) Visit https://geojson.io/ and click on the ? Help tab to learn more about this project

2) Head back to the </> JSON pane to watch as we build our data!

a) On the map, navigate to North Minneapolis where you conducted your Juneteenth interview (Near **701 W Broadway Ave**)



b) Toggle the Draw Point tool. The cursor on the map should now look like crosshairs.

c) Click on West Broadway approximately where the interview occurred. Did you see the point get added on the JSON pane?

3) Let's add some important attributes to our point.

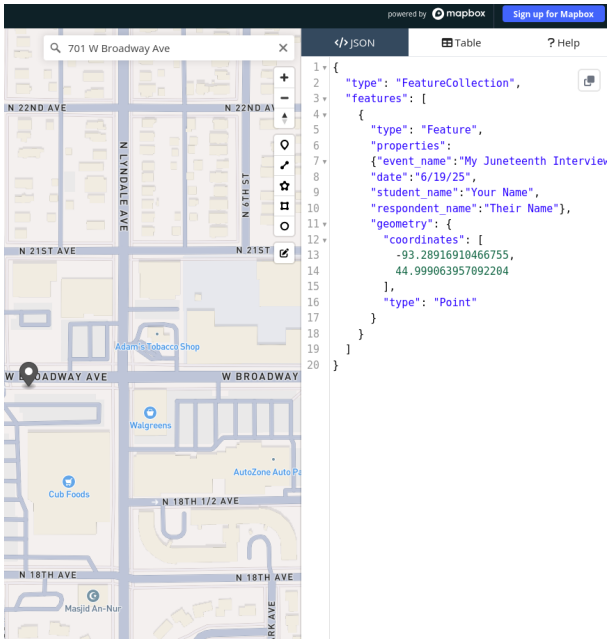
a) Place your cursor in the squiggly brackets after "properties" in the </>JSON pane and click.

b) Edit the GeoJSON to include these important pieces of information: **event_name, date, student_name, respondent_name.**

The formatting is as follows:

"properties":
{"event_name":"My Juneteenth Interview",
"date":"6/19/25",
"student_name":"Your Name",
"respondent_name":"Their Name"},

Please compare your screen to the image on the right to verify. The quotation marks (") are important!



c) Feel free to include any other pieces of information, but we will be able to edit this later.

4) Finally, let's download the data we've created.

a) On the top left of the map move your mouse to **Save | GeoJSON** and click. This should begin a download.

b) In your download folder, there should be a file called, map.geojson. **Rename** to **JuneteenthInterview.geojson**

c) Move **JuneteenthInterview.geojson** to the Sankofa Interview GIS/**Data** folder

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Let's Map!

In this section we will create a map to complement the interview we conducted.

1) In QGIS, click on the **Layer** tab at the top of the screen. Select **Add Layer | Add Vector Layer**

a) Under Source, click on the …, navigate to Juneteenth_Interview.geojson, and select open.

b) Click the **Add** button.

c) Juneteenth_Interview should appear in the Layers Pane on the left of the screen. **Close** the Data Source Manager window.

2) We should see a dot sitting on a blank screen. Let's add a basemap!

a) In the **Browser** pane on the left, scroll down to **XYZ Tiles** and click on the down arrow.

b) Double Click **OpenStreetMap**. It should appear on the top of the Layers pane

c) **Click and drag** the OpenStreetMap layer below the Juneteenth Layer so it doesn't cover up our data.

d) Lastly, right click on Juneteenth_Interview and select **Zoom to Layer(s).** Is it in the correct spot?

3) The basemap is a little blurry. This is because it is distorted by the projection of our project!

a) Go to the **Project** tab and select **Properties**

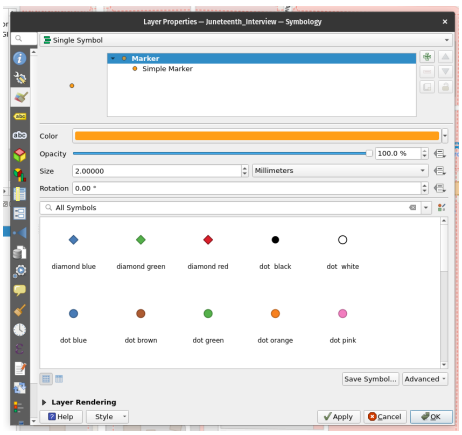
b) Click the **CRS** tab and switch this to **WGS 84 / Pseudo-Mercator** (EPSG:3857)

c) Click **Apply** and **OK**.

4) Now for the fun part – Symbology!

a) Right click on the Juneteenth Interview layer and select **Properties**

b) Click the **Symbology** tab (See image)

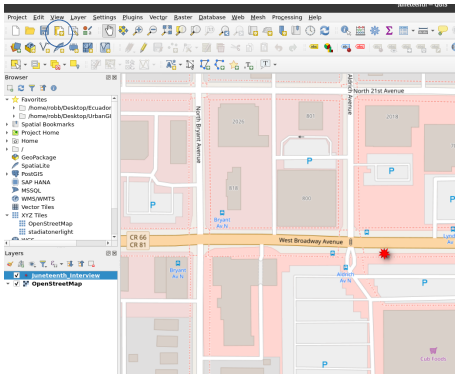


c) Change any of these options to make the point stand out! You can click **Apply** to see changes on the map. Once you're satisfied, click **OK**

d) Feel free to experiment with **Labels** as well!

5) Now that our layers are looking good, let's put the finishing touches together in a **Layout**

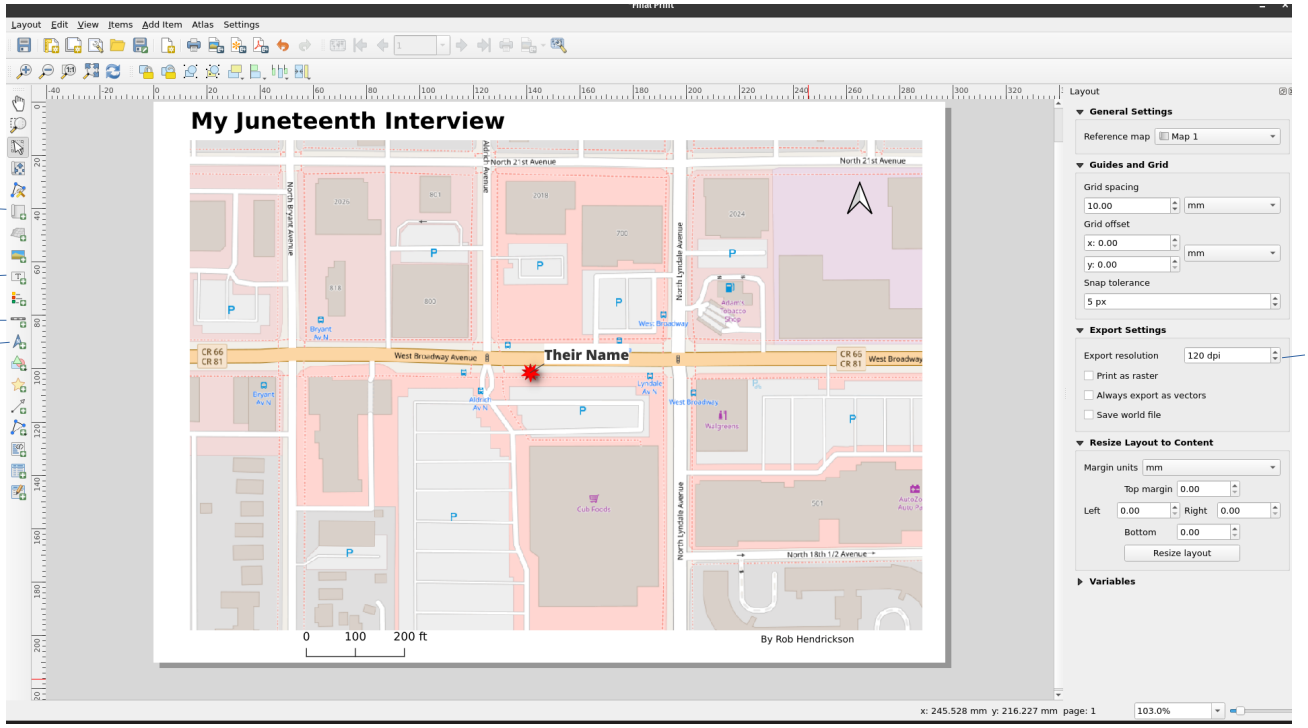
a) Select the **Print Layout** button (see image)



b) Title the layout **My First Layout** and select **OK**

c) On the left of your screen, select the **Add Map** tool. **Click and drag** a rectangle that covers most of the page and release.

Leave some space for a title, author, & scale bar!



d) Use the **Text Box** tool to create a title and author name

e) Use the **Scale Bar** tool to draw a scale bar at the bottom left of the map

f) Use the **North Arrow** tool to draw a north arrow at the top right of the map

g) For any of the objects listed above, you may right click and change the **Item Properties** to further customize.

h) In **Layout Properties**, set the **Export Resolution** to 120 dpi so the basemap renders correctly

i) When everything looks good, go to the **Layout** tab and select **Export as PDF.** Save it in the Sankofa Interview GIS folder. In the final window select **Save**